PERIODICAL RECEIVED APR 5 1916 U. OF MICH. LIBRARY

The JOURNAL of GEOGRAPHY

A Monthly Magazine Devoted to the Interests of Teachers of Geography in Elementary, Secondary, and Normal Schools.

RAY HUGHES WHITBECK, *Editor* LAWRENCE MARTIN, *Associate Editor*
Of the Department of Geology and Geography at the University of Wisconsin

VOLUME XIV APRIL, 1916 NUMBER 8

CONTENTS

PAGE

Some Problems in Geographic Education with Special Reference to Secondary Schools - - - - - - - - *R. E. DODGE* 277

Economic Geography: Its Growth and Possibilities - - - - - - - - - - - - - - - - *R. H. WHITBECK* 284

Geography in the Junior High School - *CLARA B. KIRCHWEY* 291

Work to be done by the National Council of Geography Teachers - 294

Lost Opportunities in Teaching Geography - *ZONIA BABER* 295

An Examination in Elementary Geography - *LAWRENCE MARTIN* 298

Current Geographical Material - - - - - - - - - - - - 300

Great Salt Lake - - - - - - - - - - - - - - - - 300

The Naval Stores Industry - - - - - - - - - - - - 301

Agricultural America - - - - - - - - - - - - - - 302

Sugar in the United States - - - - - - - - - - - - 304

Geography: Its Field and Its Future - - - - - - - - - - - 305

Recent Publications - - - - - - - - - - - - - - - 306

Why's in Economic Geography - - - - - - - - - - -

Authors Are Personally Responsible for Opinions and Statements Expressed in The Journal

$1.00 a Year THE JOURNAL OF GEOGRAPHY 15c a Copy

V. C. FINCH, Business Manager

University of Wisconsin, Madison, Wis.

Entered at the Post Office, Madison, Wis., as Second Class Mail Matter Sept. 9, 1910

The Journal of Geography

Published Monthly Except July and August

Successor to the Journal of School Geography, Vol. V, and the Bulletin of the American Bureau of Geography, Vol. II.

Editor
RAY HUGHES WHITBECK.

Associate Editor
LAWRENCE MARTIN.

Of the Department of Geology and Geography, University of Wisconsin.

Contributing Editors, 1915-16

ISAIAH BOWMAN, Director of the American Geographical Society, New York.

ALBERT PERRY BRIGHAM, Professor of Geology, Colgate University, Hamilton, N. Y.

JAMES F. CHAMBERLAIN, Professor of Geography, State Normal School, Los Angeles, Cal.

W. N. CLIFFORD, Southern High School, Philadelphia, Pa.

CHARLES C. COLBY, Associate Professor of Geography, Peabody College for Teachers, Nashville, Tenn.

GEORGE E. CONDRA, Professor of Geography, University of Nebraska.

RICHARD E. DODGE, Professor of Geography, Teachers College, New York.

WILLIAM M. DAVIS, Professor of Geology, Harvard University.

PHILIP EMERSON, Principal Cobbet Grammar School, Lynn, Mass.

N. M. FENNEMAN, Professor of Geology, University of Cincinnati.

WILLIAM M. GREGORY, Professor of Geography, Normal School, Cleveland, O.

J. PAUL GOODE, Associate Professor of Geography, University of Chicago.

MARK JEFFERSON, Professor of Geography, State Normal College, Ypsilanti, Mich.

C. J. POSEY, Assistant Professor of Geography, University of Minnesota, Minneapolis.

ROBERT DeC. WARD, Professor of Climatology, Harvard University.

Rules of Publication

PRICE—The subscription price is one dollar a year, payable in advance. Fifteen cents a copy.

POSTAGE IS PREPAID by the publisher for all subscriptions in the United States, Hawaiian slands, Philippine Islands, Guam, Porto Rico, Tutuila and Samoa. Add 10 cents postage for Mexico and Canada. For all other countries in the Universal Postal Union add forty cents for postage.

CHANGE OF ADDRESS—When a change of address is ordered, both the new and the old addresses must be given. The notice should be sent ten days before the change is to take effect. Subscribers who fail to give notice of change are responsible for payment for all copies sent until notice is received. The post-offices do not forward second-class mail matter. Subscribers who do not observe this rule will not be sent duplicate copies.

DISCONTINUANCES—If a subscriber wishes his magazine discontinued at the expiration of his subscription, notice to that effect should be sent direct to the publisher, never to an agent. Otherwise it is assumed that a continuation is desired. Do not ask the publisher to discontinue your subscription without paying arrearages.

HOW TO REMIT—Remittance should be sent by Check, Draft, Express Order, or Money Order, payable to order of The Journal of Geography. It is, as a rule, safe to send a dollar bill without registering, but sender must assume the risk. Larger amounts should not be sent in cash.

THE JOURNAL OF GEOGRAPHY

V. C. FINCH, Business Manager

University of Wisconsin, Madison, Wis.

The JOURNAL of GEOGRAPHY

Volume XIV APRIL 1916 Number 8

SOME PROBLEMS IN GEOGRAPHIC EDUCATION WITH SPECIAL REFERENCE TO SECONDARY SCHOOLS*

By Richard E. Dodge
Teachers College, New York

IT may seem at first superfluous to devote this address to the discussion of problems in geographic education when more than one half the members of this association are engaged in teaching geography, or some phases of the subject, in our higher institutions. Having, however, worked many years in the shadow of both geography and education—as it were, in the umbra of the one and the penumbra of the other subject—my energy has been devoted increasingly to the consideration of those problems which involve the effective co-ordination of educational theory, practise and ideals and the ideals of the professional geographer and professional teacher of geography. I have realized more and more fully as the years have passed that we shall never have effective geography teaching until geographers and educators come to understand each other better, are more sympathetic each toward the other's viewpoint, until they realize that their ideals have many factors in common, and that effectiveness can be secured only by team work. The time has passed when in education, sports, or even in life, the star player can afford to sacrifice the success of the "team" to increase his vanity or promote his dignity. . . .

Time will not permit any presentation of the experiments performed and tests made by the many workers who have contributed to the evolution of experimental psychology from a philosophy into a science. Suffice it to say that established principles of education, of which the new attitude of educational leaders toward the question of mental discipline is an instance, have brought about new and in general more efficient methods of teaching in our better elementary, secondary and normal schools. . . .

On the whole, however, progress is being made. . . . We must look forward, and if we believe geography can be aroused from the state of arrested development in which it has so long lain dormant, we must join forces with all who can contribute scientific truth or accurately tested experience to the solving of the problems of such deep interest to all, and work for success as never before. Geography will come to its own when it is *proved* to be worth while in education. To make geography worth while we must not only scrutinize our methods of teaching from the educational standpoint, reevaluate its parts, and perhaps the subject as a whole, but also pay attention to the edu-

*Excerpts from presidential address delivered before the Association of American Geographers, Washington meeting, December, 1915. Printed in full in *School and Society*, Vol. III, pp. 253-265, Feb. 9, 1916.

cational movements that educational leaders, professional and political, are actively and effectively promoting.

Three movements of great significance, all vitally affecting the status of geography in elementary and secondary schools, have within the last few years come to the front in educational discussion and educational administration. They are the junior high school, the adoption of general science courses in the earlier high-school years, and the project or the problem method of teaching, not only science, but other subjects.

Perhaps the most far reaching and significant movement of recent years has been the development of the junior high school which may be "defined as a special organization of grades 7 and 8, or 7, 8 and 9 to provide for greater differentiation of studies, better care of individual pupils, an easier transition to high school, longer school life, etc."[1]

By this system of organization some subjects, like mathematics beyond arithmetic, foreign languages and commercial and industrial studies can be begun earlier in school life, the abrupt change in methods of school work customary where the high school follows after the eighth grade is avoided and children are kept interested in the work because content and methods change as their powers increase and ambitions develop with the oncoming of adolescence. Already reports of the success of junior high schools from many cities show statistically a great increase in the number of pupils that remain in school beyond the sixth or seventh grade. This division between the grade school and the high school, which has so long remained untouched, is disappearing like a mist before the breeze or sun.

How does this affect geography teaching in schools? Generally in one of two ways. Either continental or regional geography is dropped at the end of the sixth year of the elementary school or it is carried unchanged or modified into the first year of the junior high school—the old seventh grade. If the former plan is followed the systematic study of geography that *every one* may or might find useful is dropped just at the time when the increasing abilities of well-trained pupils make it possible for regional geography, whether taught by old methods or new, to be really a contribution to life preparation. In some schools geography in the junior high-school years is devoted to the elements of commercial and industrial geography, and no all-round regional study is given. Children are again "fed, clothed and sheltered" as they have been perhaps several times in the earlier years of school geography. Owing to the lack of good texts and equipment and to the inadequate training of the teachers, the work often becomes less serious and satisfying than the work it displaces.

When regional geography is continued in the first year of the junior high school, it is usually made somewhat commercial in flavor and fills a need that all recognize as worth while. At present the best work for junior high schools has yet to be found. The problem is before us and any consideration of

1. Report Commissioner of Education, Vol. 1, p. 147. Washington, Government Printing Office, 1915.

science work, including geography, in secondary schools must take account of this movement and be organized accordingly.

General science is a title that today looms large in educational discussion, and under it is included the work in science for the earlier years of the old type high school and the upper years of the newer junior high school. Only six years ago a committee of the National Education Association[2] recommended a year course in geography for the first year of high schools, "about one half to be devoted to the larger topics in physical geography, and that the remainder of the year be given to a study of North America and Europe." This recommendation varied but little from those of a report made to this association in 1910.[3]

Since then general science, or elementary science, has come in with a rush so impetuous that even its promoters have been swept from their feet and have found some difficulty in readjusting themselves. The effect has been in many cases to crowd geography from the curriculum. . . .

The problem method of teaching, founded on proved psychological principles, and advocated by our keenest philosophical thinkers in education, is making every educational worker in each great field of study stop, look, think —and then think again.

The junior high school is requiring an organization of high-school geography work to meet a new need. General science is crowding geography, or more properly physical geography, from its time-honored place in the first year of high-school work, and makes necessary a reconsideration of where geography shall be placed and what shall be taught. The recent development of the problem method of teaching—an old friend that the best teachers have long used unconsciously—is now becoming a rough tool for the beginner and the novice.

As a result, geography, which we believe has worth that can not be challenged, must be approached from a new standpoint. If the geographers do not help in this reorganization and redirection of geography, the task will be taken from our hands and chaos may result. A study of the literature of geography teaching shows that many educational leaders do not realize the significance or the beauties of the subject. They accept the table of contents of the formal texts on physical and commercial geography (of which nearly thirty different ones are now in use) as a digest of geography, not of special phases thereof, and either discard the subject as beyond redemption or accept it as something that must be endured. Few realize that there is any other geography than the physical and commercial geography of the last few years, though several reports advocating the development of regional geography, and the humanizing of physical geography, have been widely distributed and much discussed in recent years.

A study of the printed courses of study of 219 high schools from all parts of the country, of the answers to a series of questions received from 76 super-

2. *Journal of Geography*, Vol. VIII., No. 1, September, 1909, pp. 1-9.
3. *Journal of Geography*, Vol. VIII., No. 7, March, 1910, pp. 159-63.

intendents in large cities, of 24 replies to a similar questionnaire sent to a much larger number of high-school teachers—selected mainly by members of this association as the best and most successful teachers they knew—as well as 17 replies to a questionnaire sent recently to members of this association, shows emphatically that geography in high schools is in a rut and generally out of favor.

The printed announcements of 219 high schools, incomplete as they are as to details, indicate that geography is increasing in significance only in business or commercial courses. Excursions and field work are offered in but few schools, laboratory work is noted but rarely. The most favorable fact is that in more than half the schools giving geography, five hours a week are devoted to it, a fact more characteristic of business courses than of other courses. The dry facts as to the status of geography are sufficiently discouraging, but the detailed reasons for the facts, as given by teachers and superintendents, are even more so. We can draw many conclusions, according to our interests and points of view, as to why geography teaching is not more successful in secondary schools. We would all probably agree that geography in secondary schools suffers because it is not tied up with the earlier work and leads nowhere. Geography in schools lacks unity and purpose and hence strength. We as geographers have been putting our approval on a type of secondary-school geography in no way related to or based on the earlier school work. Students in the stress of secondary schools can have no working use of the details of their earlier work, unless those details are used in their regular work. When pupils have been exposed to no locational work for five or six years, certainly since they left the seventh grade of the elementary school, have college and normal school teachers a right to charge ignorance of location as the chief geographic weakness of high-school graduates? Have we been consistent or far sighted? When teachers are seemingly unaware, as their replies would indicate, that there is anything new in methods of geography teaching, or that they need pay attention to educational principles or movements, can we wonder that geography is not, to put it mildly, a universally sought elective?

We lament the poor teaching of geography in high schools and yet do not aid in its betterment either by showing how to get the real spirit of geography into the formal work, or by paying heed to the tendencies of educational thought. We can not play ostriches any longer and be self-satisfied in our exposed isolation. Neither can we rightly criticize geography teaching in secondary schools as being bad when in most high schools, outside of a few large cities, the geography work is not sufficient to demand the full time of an adequately trained teacher. Today, as shown by the replies received from questionnaires, and in the report[4] of a study in the high schools of the middle west, the *special* teacher of geography is rare. Of fifty-eight teachers of geography in fifty-three high schools, eight taught geography only, and these were all in one school. The specially trained teacher of geography is even rarer. Of the fifty-eight teachers mentioned, only nine had had more than one year's work in geography in normal school or college. Usually the teacher of geography

teaches one or more other sciences, or some other subjects, perhaps physical training or stenography. The usual teacher of geography is a teacher of science or commercial subjects.

The lack of trained teachers of geography in the high schools is not due to lack of supply so much as to a lack of demand. An increased demand will bring a supply. We must put a new spirit and a new content into high-school geography. . . .

Meanwhile the old content of physical geography for secondary schools has persisted with but little change, or if we have included any phases of applied geography in our texts we have often done so in a forced or perhaps even apologetic way. In recent years some teachers and writers have made significant advances in humanizing physical geography, but so great is the inertia of the past that no one has as yet put forth any complete constructive program for the future high-school geography, which must be educationally sound, geographically strong and broad, and really worth studying for the usableness of its content. It is in part due to the demand that geography shall be worth while that we owe the present tremendous significance of commercial geography, as yet not wholly devoid of its lists of "furs, feathers, gums and resins." . . .

Geography for secondary schools will in time be geography—and geography is not a synonym for physical geography or commercial geography. Geography is a human as much as it is an earth science. Its larger problems are human problems that involve a study not only of the influencing conditions of the physical environment, but of the economic and social conditions that may be as basic as the physical conditions. These larger problems are not wholly commercial or industrial. Commercial geography bears about the same relation to human geography that the physiography of the land or water does to physical geography. It is only a special phase of the larger subject, but a phase that can not be ignored in any complete study. . . .

The problem method of approach enables us to deal with the same basal content, so as to make a life-giving and thought-provoking subject. Further, this method will minimize the deadening influence of pure memory work which so long was considered the main phase of teaching. Facts and principles will be remembered because they are useful and because they are properly associated psychologically. "Discipline" will be secured through the efficient training of the enquiring mind in solving scientific problems, and the methods of work employed will make easier the study of other sciences approached in the same way.

This vitalized geography will be organized according to educational principles and will make use of the methods of teaching known to be best adapted to adolescence. Laboratory work, recitations, quizzes, or any other desirable plan will be brought in when most serviceable. The development of the individual and class will go hand in hand with the development of the subject

4. E. E. Ramsey, "Physical Geography in the High School," *School Science and Mathematics*, Vol. 11, 1911, pp. 838-48; Vol. 12, pp. 45-54; 114-25.

and not lag so far behind that it may be forgotten as a purpose in teaching. . . .

The new geography will lead pupils to appreciate the physical, economic and social causes underlying the consequences seen in human and life geography, so far as their age and powers will permit. This new geography will find its application in history, in economics and the other distributive subjects. Location will come back because the course will deal with facts and relations placed somewhere, and centering around some human group and its problems. Being a subject of value in the interpretation of human affairs, in making clear the story of the past as well as the conditions of the present, it will be used in other subjects. . . .

Any effective reorganization of high-school geography to meet "the situation that confronts us," the beginning of a revolution in geography teaching as epochal as that of the nineties—depends on many practical factors. We must have text-books in human and physical geography organized scientifically and better unified than many of the current books on commercial geography. As the new geography will involve the study not only of the distribution of people, but of the forms of life on which humanity depends, and will include a study of countries as well as people, we must have an adequate school atlas for America, similar to but yet different from those available in several countries abroad. We must have class-room guides involving the study of other geographic materials than text-books and atlases, and yet not wholly dependent upon topographic maps, agricultural bulletins and census reports, which are often mere makeshifts for the real thing. Finally we must have teachers of proper training, who have caught the spirit of geography and of modern education, and who want to teach youths geography and not merely some phase of geography to youths. The demand for teachers of this type, which already in fact exists, may involve our colleges and normal schools, few of which as yet pay much attention to geography.[5] Perhaps the day will come when the paths blazed by a few colleges, and relatively fewer normals, in real geography teaching will be more generally followed and geography will come to its own in American education. The opportunity and demand are here, the responsibility confronts us. Self-preservation, and the increasing number of geographers who are winning their way to the front through their studies of life geography, would seem to suggest the lines of advance we should follow.

Geography can not be what it should if educational leaders, untrained in geography, are to direct its future course. Neither can a geographer develop his subject to its highest degree if he looks at it only from the window that has given him the most pleasing vistas of the science and pays no heed to the subject as a whole, or to the new conditions that modern educational science has brought about. Knowledge is becoming more and more specialized; progress is being made so fast in all sciences that the all-round naturalist, able to teach any science well, is almost an impossibility. Modern education is a science

5. "A Study of Geography in Normal Schools," *Teachers College Record*, March, 1914, pp. 1-12.

and an art. It is the necessary handmaid of all subjects that should enter into the training of youth. Let us then seek its aid. With our eyes turned ever toward the ideal, and yet recognizing that it is a practical problem before us, let us take such steps into the future as the best testimony of all interested, specially trained experts in the several cooperating sciences, warrants. Then geography, being proved of value and not merely taken on authority, will come into its own in all phases of education.

Mineral Resources of the United States

The value of the mineral production of the United States now reaches $2,500,000,000 a year. Though this value falls far below that of the country's farm products, the magnitude and scope of our mineral industry may be best measured by comparing our own mineral production with that of other countries, no one of which can compete with us in abundance or variety of mineral resources. The United States mines nearly 40 per cent of the world's output of coal, and produced 65 per cent of the petroleum in 1913. Of the more essential metals, 40 per cent of the world's output of iron is raised from American mines, and the smelters of the United States furnish the world with 55 per cent of its copper and at least 30 per cent of its lead and zinc. These are the raw materials on which has been founded a great metallurgical industry, but on which can be built much more extensive chemical and metal-working industries.

The only essential minerals of the first rank of which the United States has no known supply at all commensurate with its needs are nitrates, potash salts, tin, nickel and platinum, the list thus comprising two essential mineral fertilizers and three very useful metals. Probably no other nation in the world so nearly approaches absolute independence in respect to mineral resources.

In its reserve of mineral fuels, the United States holds an impregnable position as a world power in industry and commerce. Our production of coal overtops that of any other nation and, in fact, nearly equals the combined output of Great Britain and Germany, the nations that rank second and third.—[*Commercial America.*]

Half a Million Acres Irrigated from Wells

The largest ground-water developments in late years have been those designed to provide water for irrigation; 500,000 acres are irrigated in the arid and semiarid States with well water, more than two-thirds of which is brought to the surface by pumping. Most of the irrigation with ground water is done in California. Moreover, irrigation with ground water is not confined to the arid regions; in 1909 more than 1,400 wells were pumped in Louisiana, Texas, and Arkansas for the irrigation of 110,000 acres of rice, and pumping plants for irrigating fruit and vegetables are installed in several localities in the East.

ECONOMIC GEOGRAPHY: ITS GROWTH AND POSSIBILITIES*

By R. H. Whitbeck
University of Wisconsin

REPORTS from nearly all parts of the country indicate a continued growth of commercial geography as a high school study. There are two evident reasons for this growth:

(1) The increase of commercial courses, and

(2) the trend toward practical and vocational studies.

Any branch of study which can prefix the word "commercial" to its name—commercial arithmetic, commercial English, commercial law,—promptly falls in a preferred class in the opinion of many people, particularly young men. In American education there is a persistent drift toward studies that promise to increase one's immediate earning power. Commercial geography is sharing in this movement. However, the study is not everywhere in high favor because, it is maintained,—

(1) Its subject matter consists so largely of mere items of information loosely connected, ever changing, highly statistical, and possessing little scientific value.

(2) The study appeals to the memory, does not require much, if any, independent reasoning, and hence does not develop intellectual power.

(3) The supposed practical value is largely imaginary.

All of the objections resolve themselves into the assertion that commercial geography has little scientific value and that its supposed practical value is over-estimated. Nor is the assertion without some foundation. Those of us who are interested in making geography a really valuable branch of study must examine commercial geography in the light of these objections and decide whether they are genuine, and if so, whether they are inherent and irremediable.

Economic geography is not a science in the same sense that physics or chemistry is. Neither are history and economics, yet they are valuable instruments of education. It is not imperative that a study shall be strictly scientific in order that it may be valuable.

Economic geography is one of those studies which have a useful information content. The educated man is one with not only a *well trained* mind but also a *well informed* mind. Education is designed to give *both* knowledge and power. Some branches are valuable mainly because of their training value—ancient languages and geometry, for example. Others afford intellectual training, but are valuable mainly for the insight which they give into the wonderful perfection and order of Nature, e. g., physics, chemistry, and biology—the natural sciences. Still others record the achievements and the progress of mankind—e. g., history, and human geography. History as a

*Abridged from an address before the Commercial Teachers' section of the Iowa Teachers' Association, Des Moines, Nov. 4, 1915.

branch of study no longer has to be defended; it has made a place for itself because it furnishes a kind of knowledge which men wish to possess; it has deservedly come to occupy a large place in education. Few will condemn it merely because it appeals more to the memory than to the reason; it is not offered as a substitute for physics or geometry. Its purpose in education is to give breadth of mind, breadth of interest, breadth of outlook; to enable us to see events in perspective. The statesman, the publicist—the leader of men—who does not know history is a poor leader. No one defends the kind of history which merely enumerates dates, and battles, and dynasties; such was formerly presented under the name of history, but the subject had to grow out of that stage and it has done so. Now our best textbooks in history not only record the past, but they interpret it. They aim to show the causes and the consequences of great events as well as to narrate those events. School history has been rationalized; and because it has been, men concede that it is valuable, and willingly accord it a place in the scheme of education.

Economic geography must pass through—in fact, is passing through—precisely this evolution, and is gaining slowly in strength and rapidly in favor. In Europe it is almost, if not actually, the leading phase of geography in higher institutions.

A rational type of economic geography is, in my judgment, destined to be a part of the curriculum in all our high schools. If this is true, it is incumbent upon us to see that the study develops along sane lines. At once the question arises, What modifications in the study are needed to bring this about?

Some Changes Needed in the Subject-matter of Commercial Geography

There is need of elimination; a smaller number of mere items should be taught. There is little value in enumerating a long list of the products of each country. It is not necessary to mention all of the crops of a country and to specify in what sections they are raised. Books of reference may properly contain such information, but not school textbooks. Each important country supplies to the world's trade certain things for which that country is more or less celebrated. People are interested in the fact that Germany has come to lead the world in the growing of sugar beets, and in the production of sugar, and that that small country raises more potatoes than even the United States, fifteen times as large. We are interested in Germany's great production of rye because it is the bread-stuff of the nation, yet we care little about the oats and barley. We promptly forget, if told, that "the high plains of the southwest are rich in meadows and raise fine cattle" or that "many hogs are fattened in the oak and beech forests of the South." The latter are details, scarcely more than incidents in the economic life of Germany. Knowing them does not give us insight into the causes of Germany's development or shed light upon the reason for the phenomenal growth of the nation's industries. We are ready to learn facts that are significant, but we don't care for mere lumber.

Geography is the only study in the schools in which young people can get systematic knowledge about the nations and peoples that make the modern world. And though we may call our study *economic* or *commercial,* what we really want is a broad-gauge type of geography. We desire to have some idea of the relative size of countries because size counts in certain important ways. We want to know their resources, the strength and weakness of their geographical position, the invigorating or enervating quality of their climate, their food-producing ability, their degree of dependence upon others for raw products or supplies of any kind, their transport facilities, their military and naval strength, the character of their government, the efficiency of their educational systems, the race fiber of their people, and the things which they can do in a superior manner. We want to understand, if possible, the real character of the country and the genius of its people. This sort of geography gives both insight and outlook; it trains for citizenship and for leadership. It cooperates with history, literature, and science in making the man of breadth. Geography of this character will never be called upon to defend its right to a place in the schools. That right will be conceded.

Such a conception of geography calls for the classification of countries into about three groups, according to their respective importance in the world's affairs.

1—Countries of the first order

2—Countries of the second order

3—Countries of lower orders

The first group includes Great Britain, France, Germany, Russia, and the United States. The second group includes Austria-Hungary, Japan, China, Italy and possibly Holland, Belgium, Argentina, and Brazil. The third group includes the rest. This is simply my own classification and doubtless would not be acceptable to all.

The countries of the first and second groups are the ones that loom large in the world's affairs; the countries that are doing things in a big way. In the third group are also some highly interesting countries—Switzerland, the Scandinavian countries, Mexico, and Chile. If we make school geography effective in giving insight into the character of the leading nations, we must select the important countries and spend time upon them. In case only a half year is allotted to geography, it would be possible to dispose of the minor countries as outside reading or to study them very briefly.

I am persuaded that the improvement of economic geography lies, in part at least, in studying a smaller number of countries, in eliminating a host of disconnected items of general information, and in centering attention upon those factors in the geography and life of the nation which really make it what it is. Some of those factors will be strictly geographical and some will not be, but the latter are so closely interwoven with geography that they can not well be separated from it.

There are geographers—and good ones—who hold that economic geography should be largely a study of commodities and the circumstances of their production and distribution. I can not bring myself into accord with this view. This may answer for strict *commercial* geography, but I believe there is a broader and better kind of geography than this. I cannot escape the conviction that in the study of geography the unit should be the *country* rather than the *commodity*—such as wheat, corn, or iron. If time can be made for treatment from both angles, so much the better.

Following these general principles may I descend to some particulars regarding methods of procedure?

(1) *Geography should always involve a knowledge of location, and knowledge of location is gained by working with maps.* Three types of maps are needed:

1.—Good, clear maps in the textbook itself, with an atlas near at hand.

2.—Progressive outline maps for pupils' use. These are inexpensive.

3.—Wall maps, showing the main physical features and political divisions of the continents.

There should be a reasonable amount of map-sketching and a little careful map-drawing. One of the best of tests for clear ideas of locational geography is the ability to sketch, in a few strokes, the outlines of a country or continent, and to place in their correct positions a few of the most important natural features, political boundaries, and cities.

For the sake of definiteness, each teacher should have a thoughtfully-made minimum list of cities, rivers, arms of the sea, etc., and see to it that these are thoroughly taught and occasionally reviewed. Taking Europe as an example, there are about ten cities of great international importance:

Group I. London, Paris, Berlin, Vienna, Rome, Petrograd, Constantinople, Antwerp, Hamburg, Liverpool. Each of these is worthy of study, including the exact location, advantages of location, approximate size, most important activities, and any special matters of real significance.

There are about 20 or 25 cities belonging to a second group.

Group II. Manchester, Birmingham, Glasgow, Marseilles, Genoa, Venice, Naples, Athens, Brussels, Rotterdam, Amsterdam, Copenhagen, Stockholm, Christiania, Moscow, Madrid, Lisbon, Edinburgh, Milan, Lyons, Budapest, Dublin, Essen, The Hague, Warsaw (25). These are cities of large commercial, industrial, or political interest; cities that appear constantly in current news and comment, and about which the high school student should know at least one or two main facts besides that of location.

In addition, there are other cities whose names are so often seen and heard that educated people desire to know at least *in what country* they are.

I am listing 50 such cities; perhaps the list is too long.

Group III.

Barcelona	Cologne	Kiev	Prague
Basel	Cork	Konigsberg	Portsmouth
Belfast	Danzig	Leeds	Riga
Belgrade	Dresden	Leipzig	Seville
Bergen	Dundee	Liege	Sheffield
Bordeaux	Florence	Lille	Stettin
Bradford	Frankfurt	Lodz	Strassburg
Bremen	Geneva	Munich	Stuttgart
Breslau	Ghent	Newcastle	Trieste
Bristol	Hammerfest	Nuremberg	Turin
Bucharest	Hanover	Odessa	Zurich
Cadiz	Havre	Oporto	
Chemnitz	Hull	Palermo	

The following rivers and coastal waters are worthy of attention:

Clyde to Glasgow (ship-building)
Mercy to Liverpool—canal to Manchester
Tyne to Newcastle (ship-building)
Thames to London
Seine to Paris
Scheld to Antwerp
Garonne to Bordeaux
Rhine, Elbe, Weser, Oder, Vistula, Danube, Volga.

North Sea, English Channel, Strait of Dover, Irish Sea, Baltic Sea, Bay of Biscay, Mediterranean Sea, Adriatic Sea, Aegean Sea, Black Sea, Dardanelles, Bosporus, Caspian Sea, Strait of Gibraltar.

Optional: Rhone, Severn, Loire, Tagus, Po, Tiber, Don, Dnieper, Gulf of Finland, Gulf of Bothnia, Zuyder Zee, Skager Rack, Cattegat, White Sea, Sea of Marmora, Sea of Azov.

(2) *A good course in geography teaches the pupils the habitual use of standard reference books;* the encyclopedia, the Statistical Abstract of the United States, the Statesman's Year Book, the Year Book of the Department of Agriculture, the annual volumes of the U. S. Geological Survey on the Mineral Resources of the United States, the abstract of the U. S. Census and even the World Almanac. Every state issues reports and bulletins of geographical value. It takes a little writing to find out about these, but it pays. Cities, railroad companies, steamship companies, manufacturing companies, and many others issue illustrated booklets.* Literature, designed mainly for advertising purposes, is to be used sparingly but it is sometimes useful, mainly because of excellent illustrations.

*The Journal of Geography published a list of 500 such in January, 1915, and copies of the issue of the magazine are still available (15c).

(3) *A good course in geography gives training in looking-up material and in organizing and presenting special topics.* The experience and training gained in doing such work is often worth more than the knowledge. Such topics may involve either the intensive study of some country or of some subject, of which the following are examples:

The coffee industry of Brazil
The nitrate industry of Chile
The cacao industry of Ecuador
The sugar industry of Cuba
The silk industries of Japan
History of the Panama Canal
History of the Suez Canal
Agriculture in China
Grazing in Australia
The gold and diamond mines of South Africa
Lumbering in Washington
Iron mining in Minnesota
Cotton growing and marketing
The seal fisheries of Alaska
The salmon fisheries of the Pacific Coast
The Trans-Siberian Railroad

Debating is one of the finest of intellectual exercises and one in which many students take a great interest. Certain questions in geography lend themselves to this sort of discussion; classes profit by such debates between selected teams of three or four persons on a side. The following questions are illustrations:

1. *Resolved*: that for foreign trade the geographical situation of Germany is superior to that of France.

2. *Resolved*: that the building of the Panama Canal will benefit world-trade as much as did the building of the Suez Canal.

3. *Resolved*: that free trade should exist between the United States and Canada.

4. *Resolved*: that the U. S. Congress would be justified in appropriating during the next ten years a sum up to $400,000,000 for the improvement of rivers.

5. *Resolved*: that the United States is in need of a greatly enlarged merchant marine and should take any steps necessary to secure it.

(4) *The local industries, the trade between the city and the surrounding country, the home city's advantages of location, its railway connections, and the probable reasons for the city's growth or lack of growth are profitable topics for study and discussion.* If time permits, the study of the resources and industries of the home State is well worth while.

(5) *The exercise known as "scoring" a country on its points of advantage for carrying on industries and commerce is a thought-stimulating device.*

This consists in assigning a numerical value to each of the most important points that determine a country's rank industrially and commercially. The following assignment of points has been tried and found satisfactory:

A nation which is ideally endowed in all particulars for purposes of commerce and industry is assumed to be entitled to a perfect score, 1000. No such nation exists. The United States would perhaps deserve the highest score, though not 1000; possibly 900 to 950.

Each of four important points is weighted as follows:

1. Climate in all its bearings, combined with area, 250 points.

2. Natural resources, their extent, variety, availability, distribution, etc., 250 points.

3. Natural advantages for carrying on international commerce, including physiography, boundaries, coast lines, situation with respect to other commercial nations, 150 points.

4. The people and the intelligence with which they utilize their advantages and resources, 350 points.

The country which is under consideration is to be given such a score on each of the four points as the students, after careful thought, believe it entitled to. The sum of the four separate numbers gives the total score. The student must be prepared to explain and defend his scoring in every instance.

The value of such an exercise is considerable; it induces students to weigh the various factors which determine a country's ability to hold a place in the commercial world; it leads to a thoughtful comparison, point by point, of one country with another; it brings out the difference between a country that lives up to its possibilities and one that fails to do so; and the quantitative nature of the result secures definiteness. As a means of testing a student's actual understanding of a country, the device is excellent. Of course no two persons, however competent, would give a country exactly the same score. A margin of at least 100 points in the total may be allowed for differences in judgment between equally competent persons.

Conclusion.—As has already been pointed out, the trend of the times forecasts the widespread adoption of economic geography in the high schools. The trend is merely part of a large movement toward socializing the curriculum and toward vocational or semi-vocational studies. Economic geography sanely organized and purposefully taught gives breadth of outlook and breadth of interest; it yields a kind of knowledge which educated people desire to possess and it can be so taught as to furnish training of high value. To see that these worthy ends are, so far as possible, realized in practice is the duty of the geographers and geography teachers.

GEOGRAPHY IN THE JUNIOR HIGH SCHOOL—ITS RELATION TO ELEMENTARY SCHOOL AND TO SENIOR HIGH SCHOOL GEOGRAPHY

By Clara B. Kirchwey
Teachers College, New York

THE organization of the Junior High School is a matter of peculiar interest to the teacher of geography and to many others outside of the profession who, from their knowledge of the field of geography and from a realization of its place in the understanding of present day problems, appreciate its importance in the school curriculum.

Present Conditions

Geography has never come into its own in this country. Why it is regarded as a subject which should practically be limited to the grammar school passes the comprehension of those who know both something of the subject, and something of the capacity of pupils under secondary school age. Our failure to teach geography in the grammar school is so patent and arouses such general condemnation that it would seem unnecessary to call attention to the fact here were it not that the diagnosis of the disease is usually so wide of the mark.

"Why do not our boys and girls know something of geography when they reach college?" the college instructor demands. Their ignorance is so colossal that there is nothing to build upon even where fundamentals only are required. No one would be so unreasonable as to look for any refinements of knowledge in this subject. Many have undoubtedly had experiences with college students as illuminating as was the query of one such student who propounded the following: "Is Omaha a city or a state? It sounds like a state." She was an exceptionally intelligent girl and had had the usual elementary school training in geography. It is needless to say, however, that she did not know geography when she reached college.

Many of our high school graduates go not to college but to the normal school. The period for training here is short, the field necessarily broad, and the time allotment for each subject, therefore, is limited. If the student has had the training to prepare himself to take up his professional work the task of the normal school is not impossible. Has he had this training? Can his instructors pass on to him the best thought and the experience of the ablest teachers as to ways and means of presenting subjects? Certainly not as far as geography is concerned, for the normal student does not know enough of the subject to be a candidate for methods of teaching it.

The boy or girl who goes into business life after leaving the secondary school suffers from the same lack of equipment. The particular line of work entered upon may or may not call directly for this knowledge but intelligent every day living does demand it. A little more of this knowledge than most of us possess would do much toward straightening out the intellectual tangle of persons, places and events from which a majority of us suffer chronically, often without a realization of our hopeless state. Occasionally, however, this condition is brought home to some of us. This occurred recently when several college classes were tested on conspicuous facts in connection with the present great war and were found to be sadly wanting.

Reasons For Present Conditions

The reason for this general lack of geographical knowledge in the college, in the normal school, in the business world, or in any other station is not far to seek and cannot fairly be attributed to poor teaching—the explanation generally offered and accepted. What knowledge of history, of mathematics, of English would our boys and girls possess upon reaching college if these subjects were abandoned in the seventh grade of the elementary school? We depend upon the secondary years to implant that body of knowledge in these subjects which is to be carried over into college or into other lines of activity. Why should we expect any other course to be successful in the case of geography? A period of five years, from the end of the seventh year in the grammar school to graduation from the high school, is a long stretch in the life of boys and girls. We certainly cannot hope that the geography that they studied mainly as little children in the intermediate years of the elementary school will bridge the gap—and this, not only because the interval is too long to make the expectation a reasonable one but because the subject, excepting the very rudiments of it, is too big a one for little minds to grasp.

Geography in the Junior High School

The day must come when geography will be recognized as a secondary school subject as history is today, and it is to the Junior High School that we must look for pioneer work in this reform. The established secondary school has so persistently clung to the traditions of education handed down from mediaeval times, secondarily as a result of demands on the part of the college but primarily as a result of its own inertia in accepting these demands, that little can be expected in the opening of new fields here. Any attempt of this kind is met with the slogan of the college preparatory school—"More time for Latin and mathematics!"

The Junior High School has the great advantage of being so very recent that no traditions can bind it and here we may confidently expect a careful consideration of the claims of a subject for admission. In putting forward the claims of geography it should be understood that our plea is for a comprehensive study of countries, or what is so well named "Regional Geography."

Importance of Regional Geography

It may be said that many of our secondary schools offer geography, and it is true that an opportunity is frequently given for a year's work either in physical or in commercial geography. To the uninitiated this may seem at least a partial meeting of the situation but the teacher of geography knows only too well that these subjects can never act as substitutes for the study of countries—the work that is attempted in the elementary school. Physical geography, embracing some work in mathematical geography, meteorology, dynamical geology, and oceanography is undoubtedly a valuable subject, but no amount of attention to "life responses" can transform this into a comprehensive knowledge of regions, a more valuable study as far as fitting our boys and girls for life, rather than for the college entrance examination, is concerned.

Commercial geography, to be of value, must renounce its time honored method of instruction. It is gradually coming to be recognized that the subject is something more than a compilation of names of products, imports, exports and statistics of amounts that are forgotten as soon as acquired. Facts are no longer pursued as an end in themselves but as a means toward the end of interpretation and of application to the great game that is carried on between sections of our own country and beyond our borders. Commercial geography is regarded by geographers as the culmination of the science. It is frequently graphically shown as the apex of the pyramid whose solid foundation is laid in the unchanging facts of mathematical geography. The summit is gained only through a conquering of the intermediate stretches. Regional geography, rightly viewed, forms the great body of the pyramid.

The need for this regional study is recognized by our commercial geographers as the following quotation from a well known text book indicates: *". . . the intensive regional study of the world, or of some considerable part of it, logically precedes and forms the training for the broader and more complex generalizations involved in the study of the great world industries."

The elementary school can only make a beginning as far as "intensive regional study" is concerned. Fourth and fifth grade children are not ready for it. The sixth grade pupils are scarcely mature enough though we look to them for a beginning in work of this character. Will the Junior High School carry it on and defer the study of commercial geography until a real foundation for it has been laid?

While there is reason for strong hope that the Junior High School may aid materially in the development of geography in our schools, it carries, on the other hand, an element of danger with it. In view of the tendency to divide the twelve year course of the combined elementary and high schools into a six year period for each of these stages there is more than a possibility that

*Robinson's *Commercial Geography*—Rand, McNally & Co.

an attempt will be made to crowd the work that has ordinarily been carried through the present elementary school with its seven grades, or through seven grades of an eight year school, into the new six year school. It is unnecessary to say that while the state of geography is bad it might be even worse and surely no argument is needed to prove that, in the case of a subject already cramped by the measure of time allotted to it, a year saved would be anything but a year gained.

It is encouraging to learn that, in a few schools where the Junior High School has been established, two years are given to the study of "Common School Geography." This may be a survival of the old eight grade curriculum rather than the beginning of a movement to push geography on into the high school but, whatever the cause of its appearance, let us welcome the fact, and hope that this day of small beginnings may be the augury of better things to come.

Conclusion

It seems now a Utopian dream to think of regional geography carried as a matter of course through the Junior High School and made preparatory to advanced courses, possibly commercial in character, in the Senior High School. That this will some day come to pass, that geography will rank in importance with its sister science, history, and that a knowledge of geography will be considered as essential in our country as it is in Germany and in Great Britain today, seems inevitable to those who know its scope and who realize its possibilities in the interpretation of life.

WORK TO BE DONE BY THE NATIONAL COUNCIL OF GEOGRAPHY TEACHERS

1. State-wide cooperation in establishing a vigorous State Council and in securing energetic officers, full of enthusiasm. No movement gets far without enthusiasm.

2. Division of the states into districts with leaders who are made responsible for getting certain things done in their respective districts: for example, (a) seeing that geography is represented on the programs of the district and local teachers' associations; (b) aiding in securing geographical articles for educational papers in their states; (c) encouraging the formation (among teachers) of geographical reading clubs and study clubs, with an occasional lecture by an outside man.

3. Cooperation with the officers of the State Teachers Association in placing upon the annual program a strong and effective speaker on some geographical subject. Several state councils are now at work on this for next fall's meetings.

4. The formation of geographical societies in centers where there is prospect of sufficient interest to warrant it.

LOST OPPORTUNITIES IN TEACHING GEOGRAPHY

By Zonia Baber

School of Education, University of Chicago

IN these sad times of international brigandage and murder the failure of our ethical teaching in the church, in the home, and in the school strikes us like a freezing blast. How forcibly it makes us see the paramount need of society! And it is in the needs of society and in the needs of the student that the standard is found for evaluating the subjects in the school curriculum. Hence this deplorable situation is of preeminent concern for teachers. How can the school meet this need? By carefully examining each subject taught, as well as the method of teaching, the solution of this difficult problem may be found.

Political Georgraphy never meant so much to the entire world as it means today. Neighbors living amicably on either side of an imaginary line, known as a political boundary, are surprised to find themselves enemies, although ignorant of the cause that has transformed their relations. This imaginary line determines that one may be legitimately fired upon or drafted into the killing of others, according to the rules of war, while the other remains peaceably at home. A map of the world showing all the land that may be legitimately attacked is a saddening picture. It is doubtful if the people of the various nations since their tribal days have felt *nationalism* so deeply as now. This national atavism has occasioned most profound regret on the part of all who hold high ideals for humanity. For it cannot be denied that *internationalism* has had a severe shock. However, this *ideal* of internationalism must be realized if society is to avoid constant reversions to barbarism. "The present situation presents the spectacle of the breakdown of the whole philosophy of nationalism, political, racial, and cultural."* The world is stunned and is crying for permanent peace. Yet, "It is futile to work for the negative end of peace unless we are committed to the positive ideal which it cloaks: promoting the efficacy of human intercourse irrespective of class, racial, geographical and national limits."*

So long as the European or White Race retains its childish or primitive belief, that it is superior to all other peoples and consequently intended by God to dominate other races there can be no hope of a permanent peace. This conviction of superiority belongs to the white man's list of fundamental beliefs. Among these is the belief in gravity, the rotation of the earth, and the immortality of the soul. To question these faiths would be sacrilege. He boasts of the accomplishments of his race just as he rejoices in the beauty of an autumn day. To him it is the statement of a truth which he supposes all appreciate, and it is at the same time an expression of his delight in this truth.

*Dewey: *German Philosophy and Politics.*

This exalted self appreciation is not an attribute of the white or European people alone. A traveller, recently returned from Africa, where he had gone to study the language of the Congo people, reported that he had found the same belief in race superiority among that people. They are confident that they are the greatest people in the world. As evidence of the white man's inferiority they cited his inability to walk, as he had to be carried in a hammock; and his inability to find his way in the forest. "If you are superior to the white man how is it that eight hundred Belgians can govern a million of you Africans?" asked the American. "Because they have guns," replied the African. "Does not the fact that they can make guns prove their superiority?" continued the white man. "Did you ever make a gun?" asked the African. "No, but I could learn," said the American. "So could I," returned the African, and he spoke the truth as the Congoese who have gone to Paris and Brussels have readily learned to work in the various European industries.

Each individual and nation is evaluated according to the ability or skill shown in doing the thing the evaluator or judge does best. The people who do not play the game of life as we are playing it are forsooth inferior to us. For if they try to play our game we can beat them of course with our knowledge of its intricacies. "In short, historical events appear to have been much more potent in leading races to civilization than their faculty, and it follows that achievement of races does not warrant us in assuming that one race is more highly gifted than the other."* The early missionaries reported that the people of the Fiji Islands were largely governed in their domestic customs by their belief in witches. They believed that if an unfriendly person found hair, finger nail trimmings, food, pieces of clothing, or excreta of another, the finder could bewitch the owner by hiding the object in the thatch of the roof of his dwelling or by concealing it nearby. In a short time the owner would become ill. This belief in witchcraft resulted in great cleanliness in all the villages, as everything discarded was buried or burnt. The missionaries taught them that there were no witches; hence the need of strict cleanliness was removed and disease resulted. These new teachers destroyed a valuable hygienic belief without giving a substitute. Pragmatically considered the Fijian witchcraft had the same value as the present day germ theory. In spite of the fact that every race egotistically believes in its own superiority, it is doubtful if there is or ever was a race of marked superiority. However there are individuals of superior mental ability and others of inferior intellectuality in every division of the human race. This is the fact that should be kept in mind in the study of every people. For, "History teaches us that there can be no middle course. Either race antipathy and race contempt must disappear or one breed of men must dominate the other.

"The psychology of race contempt has never been dispassionately studied. It is felt most strongly in the United States and the West Indies, a little less

*Boas, Franz: *The Mind of Primitive Man.*

strongly in the British Tropical Colonies. . . . It is moreover a sentiment of modern growth. In the fifteenth and sixteenth centuries Englishmen did not regard colored people as their inferiors by reason of the color of their skin. It appears, in fact, to date only from the time of slavery in the West Indian Colonies. . . . If this race contempt were a primitive instinct with the white race the future of mankind would be lurid indeed, for it is impossible to believe that one half of humanity can be kept forever inferior to the other without deluging the world in blood."*

It is difficult to understand how the "White Race" can ignore the reports given by the European teachers in the southern hemisphere. Every one questioned by the writer last year said, "Intellectually there is no difference between the white children and the blacks of Australia, the Polynesians, the Micronesians, the Japanese, Chinese, Portuguese, and various mixtures found in the islands of the South Seas."

The fact that other people believe themselves the "chosen ones of God" and act upon this belief, in no way atones for our sin in this direction. We shall be held responsible for our acts, and unless the belief in the brotherhood of man becomes a conviction instead of a platitude, race war is inevitable. Race prejudice must be eliminated in order to avoid this awful calamity. In perplexity we turn to the school for help. Here we find that the Geography teacher more than any other has the opportunity of erasing race prejudices. This is because Geography is the only subject that brings one into contact with all the living peoples of the world.

The geographer's greater opportunity brings with it greater responsibility. In order that the student may learn to emphasize the best natural qualities of others as readily as he is wont to emphasize those of his own people, care must be taken to stress the greatest achievements and best characteristics of all foreign peoples studied. For, we are prone to measure others by their worst attributes. "A man must not do reverence to his own sect by disparaging that of another man," said the great Emperor of India, Asoka, in the third century A. D. No better standard for testing human relations has ever been found than the Golden Rule. This test should constantly be applied to all geographic facts where human relations are concerned. This will tend to establish an intellectual habit of justice, which is the only true basis of amity. We have expressed the highest patriotism when we can say, "The country *right* is my country," whether it be located in Europe, Asia, Africa, Australia, or the Americas. Shall we ever find national righteousness in a lesser patriotism? Since Geography by reason of its content is so largely responsible for our attitude towards other peoples, it follows that much of the subject matter should be rewritten as it too often reflects the nationalistic point of view. The geographers have expressed what the anthropologists have taught until recently. But a great change has come in anthropological thinking. Notwithstanding

*Thompson, Basil: *Fiji and the Fijians.*

the fact that the greatest teachers have preached the brotherhood of man for two thousand five hundred years or more the pleasing fallacy that "we are *the* people" is still believed by each section of the human family.

Since Geography offers so great an opportunity for giving the ethical point of view it follows that some aspect of the subject should be taught in each year of school and college. When this is done by teachers who have the geographic or human point of view, internationalism will be realized.

AN EXAMINATION IN ELEMENTARY GEOGRAPHY

By Lawrence Martin
University of Wisconsin

THE following examination was given to 92 of the members of a class of university students, largely freshmen, at the beginning of their course in college geography. It is based upon their grammar school geography and upon what they might have learned subsequently from courses in history and other high school subjects, from work in the first half year of college, and from reading the newspapers. The students had had no review whatever of any topic represented in the examination, except that of standard time. The purpose of the examination was informational, for instructor and students alike. The results do not enter into the term grade.

1. Write the names of all the countries in Europe (Column); Of the capitals of what you regard as the 6 great powers.

2. Name the four great rivers of Africa. Tell where each is.

3. What would you call the *one* principal mineral or vegetable product of (a) Brazil, (b) South Africa, (c) United States, (d) Wisconsin, (e) Cuba?

4. What is the general type of weather now in New Zealand?

5. What country controls (a) the Philippines, (b) Newfoundland, (c) Bermuda, (d) Iceland, (e) Panama, (f) Hongkong, (g) Suez Canal, (h) Sicily, (i) Niagara Falls, (j) Korea?

6. It is 9:30 at Madison—what time is it at (a) Washington, D. C., (b) New Orleans, (c) London?

7. What language is spoken in (a) Brazil, (b) Switzerland, (c) Australia, (d) Province of Quebec, (e) Nicaragua?

8. Through what states does the main line of the Northern Pacific Railway pass? The Pennsylvania Railway?

9. In what latitude is (a) the Arctic Circle, (b) The Tropic of Capricorn, (c) the North Pole, (d) The equator, (e) Madison? In what longitude are (f) Greenwich, (g) Madison, (h) the International Date Line, (i)

the South Pole, (j) a point in Asia half way from Greenwich to the International Date Line?

10. Locate the following places (state or country) and mention what historical or other events you associate with each:

(a) Dardanelles,
(b) Vinland,
(c) Valley Forge,
(d) Poland,
(e) Rubicon,
(f) Jerusalem,
(g) Appomattox Court House,
(h) Marne,
(i) Vera Cruz,
(j) Mecca.

In this examination 81 out of the 92 students, or 88 per cent of the class failed to receive a passing grade of 70. The questions were then given to two other groups of students (a) those in the university course on the teaching of physical geography and (b) two divisions of the physical geography class in the Madison High School. The members of the teachers course are mostly seniors. Many of them have had other courses in physical and applied geography. They are especially interested in the subject and intend teaching it. During the first semester of the present year they had had a review of a few of the topics represented in the examination, especially those in mathematical geography. Accordingly only 11 out of the 20 students or 52 per cent failed to pass the examination. The high school class, second-year students, had likewise reviewed a few of the topics represented in the examination. More important, they had forgotten less of their grammar school geography, because of having studied it only three years before. Twenty-nine out of 51 students, nearly 57 per cent, failed to pass the examination.

The following table summarizes the marks received by these three groups of students. The three-year intervals between these groups, the growing maturity of mind, and the fading away of grammar school geography with disuse are all reflected in the results of the examination. It would be interesting to give the same questions (a) to a grammar school class in geography, (b) to a group of mature men who are not teachers of geography.

Grade per cent	College Seniors 21 students		College Freshmen 92 students		High School Sophomores. 51 students	
	Number	Percentage	Number	Percentage	Number	Percentage
91-100	2	10	1	1	2	2
81-90	3	14	3	3	1	2
71-80	5	24	7	7	19	37
61-70	2	10	18	19½	11	21
51-60	3	14	21	23	3	6
41-50	4	19	19	20½	7	13
31-40	2	10	16	17½	2	4
21-30			6	6	5	10
11-20			1	1	1	2
Highest grade.	(.96)		(.92)		(.96)	
Lowest grade.. .	(.33)		(.18)		(.15)	
Number below .70.....	11	52%	81	88%	29	57%

CURRENT GEOGRAPHICAL MATERIAL

Great Salt Lake

Great Salt Lake, in the northwestern part of Utah, is about 75 miles long with a maximum width of 50 miles, and covers an area which will average about 1,750 square miles. Mr. G. K. Gilbert, of the United States Geological Survey, writes:

"Great Salt Lake has no outlet. Jordan River, which enters it from the south, is the outlet of Utah Lake. Bear River, coming from the north, carries the outflow from Bear Lake. The waters of Utah and Bear Lakes and of Jordan and Bear Rivers are fresh, and so is the water of Weber River, the third great tributary of Great Salt Lake, but the lake into which the three rivers flow is saline. It is saline because it has no outlet. The fresh waters of the rivers contain some saline matter, but the quantity is too small to be discovered by taste, but when account is taken of the total volume of water brought by the streams to the lake in a year their burden of saline matter is found to be really great, amounting annually to more than 500,000 tons. They have accumulated until the lake water is approximately saturated, holding nearly as much mineral matter as it can retain in solution. The lake contains over 5,000,000,000 tons of common salt and 900,000,000 tons of Glauber's salt (sodium sulphate) as well as other mineral matter."

To give a concrete illustration of the significance of this amount of salt it may be stated that the United States, the greatest salt-producing country in the world, produces annually about 4,800,000 tons and imports something over 1,300,000 tons. Deducting the amount exported, the annual consumption of common salt may be placed approximately at 6,000,000 tons. Should every other source be eliminated, there is enough salt held in solution in the waters of great Salt Lake to supply the United States, at the present rate of consumption, for nearly 1,000 years to come.

The variation in the superficial area of the lake is explained by Mr. Gilbert as follows:

"Another consequence of the lack of outlet is that the lake varies from time to time in size. Whenever the gain from inflow is greater than the loss from evaporation the level of the water surface rises; when the loss is greater it falls. In a series of wet years the lake level progressively rises; in a series of dry years it progressively falls; and as the rainfall is irregular the fluctuations of the lake are conspicuous. Since definite knowledge of the lake began, in 1850, there have been five periods of increase and four of decrease. The summer levels of 1868 and 1877 were more than 10 feet above the summer level of 1850, and those of 1903 and 1905 were 4 feet below that of 1850. The level of 1914 was 6 feet above that of 1905."

The land bordering the lake has a gentle slope, and a small change in the height of the water makes a great change in the area covered. A rise of 10

feet enlarges the area about 24 per cent. During the Glacial Period the rate of evaporation was far slower than now, and as a result there was an immense expansion of the water surface. When the lake was largest it had eleven times its present extent. The only permanent animal inhabitant of the waters of Great Salt Lake is a very small "brine shrimp," about one-third of an inch in length. Industrially the lake is used for the production of salt. The water is drawn off into shallow ponds, where it is evaporated by the heat of the sun. The present annual output is only about 40,000 tons, and the gathering of this quantity of salt seems to have no appreciable effect on the salinity of the lake. Mr. Gilbert states that this output could be multiplied fivefold before it would even commence to weaken the brine.—[*Abridged from Pan-American Bulletin.*]

The Naval Stores Industry

The manufacture of turpentine and rosin is generally conducted on what is called a "turpentine farm." The farm consists principally of a tract of timber land, in many cases leased by the operator for the turpentine privileges. The equipment of a farm, exclusive of land or leases, costs from $5,000 up, the average value being about $10,000.

There are two chief systems of extracting gum from the trees, called, respectively, the box system and the cup system. The first step in the gathering of the gum by the box system is the cutting of a box or cavity into the base of the tree by means of an axe, to receive the liquid gum which is called dip. This operation is followed by chipping, which is the wounding or scarifying of the trunk of the tree directly above the box. Chipping begins in March and April and continues at regular intervals for about thirty-two weeks. In flowing to the box a certain proportion of the crude resin coagulates on the face of the tree. This residue, which is called scrape, is allowed to form undisturbed until toward the end of the season, when the flow of the gum has practically ceased. It is then scraped off and transferred to the still.

In the cup system of gathering the gum, a clay or metal cup is substituted for the box cut into the tree itself. The chipping of the tree begins above the location of the cup and continues upward in the same manner as when the box is used. The gathering of the crude gum is followed by its distillation. The still is a large copper kettle, provided with a movable goose-neck cap. Beneath the copper still is a grate which is large enough to accommodate four-foot wood. In a "charge," which requires from three to five hours for its distillation, the still usually contains from five to eight barrels of dip or scrape. As the still is heated and the vapors pass off, water is added to facilitate the evaporation of the spirits of turpentine and to prevent burning. The spirits of turpentine is then transferred into tight white-oak barrels or casks of about 50 gallons capacity, and is ready for shipment.

The residue in the kettle after the turpentine has been distilled off is rosin, which, while molten, is drawn from a tap. The rosin while hot is

ladled from the vat into rough pine barrels in which it is marketed. These are termed round barrels and weigh approximately 510 pounds gross. Every barrel of spirits of turpentine or rosin is carefully examined, the weight and grade of its contents are branded upon the barrel, and sworn certificates as to the contents are made and furnished to the factor. The manufacture of naval stores is one of the oldest industries of the United States. The primitive method of charring wood under sod in kilns or pits to extract tar and pitch was employed by the earlier settlers of the eastern coast of Virginia and the Carolinas. Because the use of tar and pitch at this period was practically restricted to shipbuilding they were called "naval stores," by which term they, as well as spirits of turpentine and rosin, are still known.

As early as 1762 tar, pitch, turpentine and rosin were exported to the United Kingdom from North and South Carolina. In 1849 the industry was largely confined to the eastern part of North Carolina, but it has gradually extended southward and westward, following the course of the long-leaf-pine belt, until it covers the States of North and South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana and Texas.

The value of the production in the United States in 1909 was $25,295,000, of which $12,654,000 was the value of the turpentine, and $12,576,000 the the value of the rosin. A comparison of the census figures for the preceding decades shows there has been an enormous increase in the later periods.

The United States is the chief source of supply of turpentine and rosin for the whole world, furnishing two-thirds of the turpentine and three-fourths of the rosin. It likewise sets the world prices of these products. For more than a quarter of a century this has been one of the duties of the Savannah Board of Trade, successor to the old Naval Stores Exchange. Prices on spirits of turpentine and all grades of rosin are made twice each day by this board, at 11 a. m. and 4 p. m., respectively. While the average man realizes in a vague way the importance of Savannah as a naval-stores market, few outside of the trade know that the Savannah Board of Trade sets the prices for the world.—[Abridged from *Commercial America.*]

Agricultural America

The great attention that has been paid by writers in general to the increase of the output of the manufacturing industries of the United States and to the steady growth of the exports of the manufactured products has led many to lose sight of the fact that the United States is the greatest agricultural nation in the world. Its grain fields cover 222,226,000 acres, an area greater than the whole of Germany and the United Kingdom combined. The corn and wheat fields alone cover 168,219,000 acres, or 13,440,000 acres more than Austria-Hungary, which is the largest country in Europe outside of Russia. Seventy-five per cent of all the corn, 62 per cent of the cotton, 35 per cent of the tobacco, 27 per cent of the oats and 26 per cent of the wheat of the world are raised in the United States.

The following table is from a report recently issued by the United States Department of Agriculture:

	Total production Bushels	Total farm value
Corn:		
1915	3,054,535,000	$1,755,859,000
1914	2,672,804,000	1,722,070,000
Average 1909-1913	2,708,334,000	1,527,969,000
Winter wheat:		
1915	655,045,000	622,012,000
1914	684,990,000	675,623,000
Average 1909-1913	441,212,000	389,382,000
Spring Wheat:		
1915	356,460,000	308,290,000
1914	206,027,000	203,057,000
Average 1909-1913	245,479,000	199,253,000
All wheat:		
1915	1,011,505,000	930,302,000
1914	891,017,000	878,680,000
Average 1909-1913	686,691,000	588,635,000
Oats:		
1915	1,540,362,000	555,569,000
1914	1,141,060,000	499,431,000
Average 1909-1913	1,131,175,000	424,047,000
Barley:		
1915	237,009,000	122,499,000
1914	194,953,000	105,903,000
Average 1909-1913	181,873,000	108,364,000
Rice:		
1915	28,947,000	26,212,000
1914	23,649,000	21,849,000
Average 1909-1913	24,016,000	19,559,000
Potatoes:		
1915	359,103,000	221,104,000
1914	409,921,000	199,460,000
Average 1909-1913	356,627,000	215,893,000
Hay:		
1915 (tons)	85,225,000	912,320,000
1914 (tons)	70,071,000	779,068,000
Average 1909-1913	65,987,000	800,670,000
Tobacco:		
1915 (pounds)	1,060,587,000	96,041,000
1914 (pounds)	1,034,679,000	101,411,000
Average 1909-1913	996,087,000	104,099,000

Cotton:		
1915 (Bales)	11,161,000	602,393,000
1914	16,135,000	525,324,000
Average 1909-1913	13,033,000	743,428,000
Apples:		
1915 (barrels)	76,670,000	156,407,000
1914 (barrels)	84,400,000	156,140,000

The United States exports more agricultural products than any other country in the world, and the value in a normal year is more than the total value of the exports of all classes of goods from any nation excepting the United Kingdom, Germany, France and the Netherlands.—[From an article by J. J. Macfarlane in Feb. *Commercial America.*]

Sugar in the United States

More than one-fifth of the 40,000 million pounds of sugar that represents the world's production last year was consumed in the United States.

Of the sugar consumed in the United States in 1914-15, 1941 million pounds were produced on the mainland, 1281 million pounds in Hawaii, 589 million pounds in Porto Rico, 327 million pounds in the Philippines, and the remainder in foreign countries. Cuba, the leading source of imported sugar, sent 4785 million in the last fiscal year, that quantity being nearly four times as much as that from Hawaii and eight times as much as that from Porto Rico.

Beet sugar now leads cane sugar by nearly 1000 million pounds in the yearly domestic product, having reversed the conditions which obtained twenty years ago. In 1895, for example, according to the Statistical Abstract of the United States, the domestic sugar product totaled approximately 775 million pounds, the share of beet sugar being only 45 million pounds. In 1915 the American sugar product had increased to 1941 million pounds, the share of beet having grown to 1448 million and that of cane having decreased to 493 million pounds. Meantime beet sugar has practically disappeared from the imports. Eighteen years ago, when the Cuban supply of cane sugar was cut off by the war, the United States imported nearly 2000 million pounds of beet sugar. After the return of peace in Cuba the imports of beet sugar fell off sharply, and in the last fiscal year beet sugar imports amounted to less than one million pounds.

The cutting off of the sugar supply of European countries has resulted in a remarkable expansion of American sales of sugar to foreign countries. For the fiscal year 1915 they aggregated 582 million pounds, as against 22½ million pounds in 1900 and 40½ million pounds in 1880.

The following table presents the leading changes in the economic position of sugar in 1914-15 as compared with the preceding year:

	1913-14	1914-15
	Millions of pounds	
World's product	42,053	40,424
United States cane product	601	493
United States beet product	1,467	1,448
United States imports: Cuban	4,927	4,785
Hawaiian	1,115	1,281
Porto Rican	641	589
Philippine	117	327
All other	18	309
United States exports	72	582
United States consumption	8,794	8,630

[*Commercial America.*]

GEOGRAPHY: ITS FIELD AND ITS FUTURE

*Excerpts from a paper read before the Manchester, Eng., Geographical Society, by Mr. J. Hutcheon.**

OF recent years, in educational circles, perhaps no subject has been more frequently discussed than geography. . . . The science is almost as old as man, for, as soon as he found that his immediate environment could not supply all his needs, geography began. . . .

The geographer's field of action is the surface of our globe, and by that term is meant such parts of the atmosphere, lithosphere, and hydrosphere as have been investigated. He borrows from the results obtained by the geologist, the meteorologist, the anthropologist, and others, and shows how the distributions of their phenomena are inter-related. In his science, as in all others, there are three stages, namely, the collecting, the classifying, and the explanatory. The first deals with the gathering of as large a number of independent facts as possible, the second with the arranging of these, and the third with the determination of the laws regulating them.

It must therefore be apparent that few subjects can profess to train more effectively the powers of observation, comparison, explanation, and imagination. The educational value of the subject is very great, whether it be considered from the points of view of utility, culture, or discipline.

Perhaps a rapid review of the development of geographical education in other countries would be of interest. The truest indication of what value is placed upon a subject is the degree of recognition it receives from the universities.

At Paris, more than a hundred years ago, the first professorship of geography was established. Now France can boast of nearly fifty university teachers of the subject, and she has produced some of the world's greatest exponents of the science. Forty years ago geography was taught at only two of

*Published in full in the November, 1915, *Journal of the Manchester Geographical Society.*

Cotton:		
1915 (Bales)	11,161,000	602,393,000
1914	16,135,000	525,324,000
Average 1909-1913	13,033,000	743,428,000
Apples:		
1915 (barrels)	76,670,000	156,407,000
1914 (barrels)	84,400,000	156,140,000

The United States exports more agricultural products than any other country in the world, and the value in a normal year is more than the total value of the exports of all classes of goods from any nation excepting the United Kingdom, Germany, France and the Netherlands.—[From an article by J. J. Macfarlane in Feb. *Commercial America.*]

Sugar in the United States

More than one-fifth of the 40,000 million pounds of sugar that represents the world's production last year was consumed in the United States.

Of the sugar consumed in the United States in 1914-15, 1941 million pounds were produced on the mainland, 1281 million pounds in Hawaii, 589 million pounds in Porto Rico, 327 million pounds in the Philippines, and the remainder in foreign countries. Cuba, the leading source of imported sugar, sent 4785 million in the last fiscal year, that quantity being nearly four times as much as that from Hawaii and eight times as much as that from Porto Rico.

Beet sugar now leads cane sugar by nearly 1000 million pounds in the yearly domestic product, having reversed the conditions which obtained twenty years ago. In 1895, for example, according to the Statistical Abstract of the United States, the domestic sugar product totaled approximately 775 million pounds, the share of beet sugar being only 45 million pounds. In 1915 the American sugar product had increased to 1941 million pounds, the share of beet having grown to 1448 million and that of cane having decreased to 493 million pounds. Meantime beet sugar has practically disappeared from the imports. Eighteen years ago, when the Cuban supply of cane sugar was cut off by the war, the United States imported nearly 2000 million pounds of beet sugar. After the return of peace in Cuba the imports of beet sugar fell off sharply, and in the last fiscal year beet sugar imports amounted to less than one million pounds.

The cutting off of the sugar supply of European countries has resulted in a remarkable expansion of American sales of sugar to foreign countries. For the fiscal year 1915 they aggregated 582 million pounds, as against 22½ million pounds in 1900 and 40½ million pounds in 1880.

The following table presents the leading changes in the economic position of sugar in 1914-15 as compared with the preceding year:

	1913-14	1914-15
	Millions of pounds	
World's product	42,053	40,424
United States cane product	601	493
United States beet product	1,467	1,448
United States imports: Cuban	4,927	4,785
Hawaiian	1,115	1,281
Porto Rican	641	589
Philippine	117	327
All other	18	309
United States exports	72	582
United States consumption	8,794	8,630

[*Commercial America.*]

GEOGRAPHY: ITS FIELD AND ITS FUTURE

*Excerpts from a paper read before the Manchester, Eng., Geographical Society, by Mr. J. Hutcheon.**

OF recent years, in educational circles, perhaps no subject has been more frequently discussed than geography. . . . The science is almost as old as man, for, as soon as he found that his immediate environment could not supply all his needs, geography began. . . .

The geographer's field of action is the surface of our globe, and by that term is meant such parts of the atmosphere, lithosphere, and hydrosphere as have been investigated. He borrows from the results obtained by the geologist, the meteorologist, the anthropologist, and others, and shows how the distributions of their phenomena are inter-related. In his science, as in all others, there are three stages, namely, the collecting, the classifying, and the explanatory. The first deals with the gathering of as large a number of independent facts as possible, the second with the arranging of these, and the third with the determination of the laws regulating them.

It must therefore be apparent that few subjects can profess to train more effectively the powers of observation, comparison, explanation, and imagination. The educational value of the subject is very great, whether it be considered from the points of view of utility, culture, or discipline.

Perhaps a rapid review of the development of geographical education in other countries would be of interest. The truest indication of what value is placed upon a subject is the degree of recognition it receives from the universities.

At Paris, more than a hundred years ago, the first professorship of geography was established. Now France can boast of nearly fifty university teachers of the subject, and she has produced some of the world's greatest exponents of the science. Forty years ago geography was taught at only two of

*Published in full in the November, 1915, *Journal of the Manchester Geographical Society.*

the German universities; at present there are close upon three score professors and lecturers. Similar progress has been made in Austria, Switzerland, Italy, Denmark, and the Netherlands. At Oxford the first readership in geography was established in 1887, and at Cambridge the study of the science began the following year. The practical branches of the subject have attained so high a standard in England, that students are attracted from all parts of the world, for, by the sustained efforts of several pioneers, staunchly supported by the Royal Geographical Society, the School of Geography at Oxford and the department at Cambridge can compare favorably with any elsewhere.

In what relation does Geography stand to the other sciences? She has been called the mother of science, the handmaid of history, the child of geology, etc., and to attempt to account for such appellations is by no means an uninteresting task.

Although Geography builds with the bricks supplied by the geologist, the meteorologist, and the anthropologist, it does not follow that in order to be a geographer one must be an expert in all these branches of science any more than the doctor, who uses the results of geographical inquiry in order to find a suitable climate for his invalids, could be called a geographer. The trend of the teaching of the subject will depend on the particular bent of the teacher; if he be mathematical, then the astronomical and cartographical phases of the science will interest him; if geological, then the physical; if biological or anthropological, then the more human. . . .

To state the line of demarcation between geography and geology is very difficult. The same material is used by both but the point of view is different, for geology studies the earth's crust in order to find out its past history, while geography looks upon the present state of development of the various land forms, considers their future condition, treats the whole as the home of plant, animal, and man, and notes the influence of configuration, etc., on him and his reaction on nature. Another of its problems deals with the distribution of minerals and soils and their influence in the economic development of the regions concerned. . . . Anthropology shows that the influence of environment on man varies in inverse proportion to his mental development. The savage is practically a slave to his environment, while the modern man has all but conquered nature. The tendency in anthropo-geography is to make sweeping statements before sufficient data have been collected. . . .

RECENT PUBLICATIONS

TRAVELS IN ALASKA. By John Muir. Houghton Mifflin Company, Boston, 1915. xi+327 pp., $2.50.

One of the most delightful books on travel published in America during the last year is John Muir's "Travels in Alaska." It is a description of glaciers, fiords, and mountains, and deals with the author's journeys in 1879, 1880, and 1890. It was not quite finished at the time of his death, although

he seems to have substantially completed the narration of his travels in the three seasons cited. Had he lived to carry out his description to the end, he would have doubtless gone on to tell of what he saw and thought and felt during his trip in 1899 with the Harriman Expedition. He then went to the glaciers of Yakutat Bay and Prince William Sound, as well as to Glacier Bay, where he had previously described the ice tongue which others subsequently named Muir Glacier.

The book furnishes not only a charming and gripping description of the coast of southeastern Alaska, as it was a third of a century ago, but also a great deal of information about the natives and their habits of life. It gives a vivid picture of the aborigines before they had been greatly affected by white men; it reveals the man Muir—as a naturalist, as a philosopher, as a reverent worshipper of outdoor beauty.

Most people will enjoy reading the book from cover to cover; the reviewer took greatest pleasure in Muir's retelling of the immortal story of the dog *Stickeen* and his trip with Muir over the Brady Glacier, in the discussion of Muir Glacier, and in the narrative of the discovery of Sum Dum Bay. The latter is now generally called Holkham Bay, and Muir seems to have been the first to explore it. It is quite likely that at the time of Vancouver's explorations the glaciers were much larger and completely filled the whole fiord. When Muir explored this fiord in 1880 the recession of the ice tongue had revealed miles of ice-sculptured fiord wall that reminded him tremendously of the Yosemite Valley. Indeed Muir gave to one branch of Endicott Arm the name *Yosemite Bay,* a name lamentably replaced in recent years by the undescriptive *Ford's Terror.* This likeness to the ice-wrought valleys of the Sierra Nevada led Muir to ascribe the Alaskan fiords to glacial erosion. He did this long before the relation of fiords to sculpture by ice was well recognized by geologists.

The reviewer can imagine no more delightful and instructive book for teachers to have, or to send their students to read in a public library.

LAWRENCE MARTIN.

ALASKA DAYS WITH JOHN MUIR. By S. Hall Young. Fleming H. Revell Company, New York, 1915. 226 pp., $1.00.

The Reverend S. Hall Young was the missionary who accompanied John Muir in his Alaskan explorations of 1879 and 1880. He was the owner of the dog *Stickeen,* described so wonderfully by Muir. But more than this, he lived and worked in Alaska for more than thirty years, so that he knows the country and the people of the country he describes. His "Alaska Days with John Muir" deals only with his journeys with his friend during the first two years of his life in Arctic America. The book will be read with keen interest by all who knew and loved Muir and especially by those who read Muir's last book, reviewed in this magazine. Young tells with directness and simplicity of the exploring trips which took them up the Stikine River, into Glacier Bay, and through the fiords from Wrangell to the head of Lynn Canal. It supplements without duplicating Muir's descriptions. Young's

descriptions of the land itself are clear and interesting. The reviewer confesses to a greater interest in the additional information about the man *Muir* and the dog *Stickeen* than in any other parts of the book. Nevertheless the descriptions of the life of the natives are interesting and valuable.

LAWRENCE MARTIN.

GEOGRAPHY AND WORLD POWER. By James Fairgrieve of the University of London. viii+356 pp., 5x7 inches. Published by the University Press, London, 1915. Price, 3 shillings.

Not, as its title might suggest, a hastily written book intended merely for "war consumption." It is full of thought and suggestion. It is an attempt to get at some of the geographical foundations of History and of political power. Much stress is laid upon stores of *Energy*. The author says: "It may be said that in its widest sense, on its material side, history is the story of man's increasing ability to control energy." "History must be controlled by the distribution of energy." His conclusion is that world power must eventually reside with those nations that have great stores of energy—coal. The chapters cover a wide range,—Egypt, Babylonia and Assyria, Palestine and Phoenicia, Greece and Carthage, Rome, Mohammedan lands, Iberia, Holland and France, Britain, Russia and Germany, China, India, Spanish America, and the United States. While intended for use as a text-book, it is no less useful for general reading; and it is worth reading.

THE WONDERS OF THE JUNGLE. By Prince Sarath Ghosh. Cloth. Illustrated. 190 pages, 5x7 inches. D. C. Heath & Co., Boston, New York, Chicago. 1915. 48 cents.

A collection of animal stories written by a native prince of India, whose intimate knowledge of animal life and sympathy with the child's point of view have created a book of unusual interest. The author tells in a conversational way how the animals of the jungle live, how they protect one another, how they care for and train their young, and how they adapt themselves to their surroundings. The stories have a strong human element and aim incidentally to teach lessons in manners, morals, and good conduct.

IRRIGATION IN THE UNITED STATES. By Ray Palmer Teele, Irrigation Economist, U. S. Dept. of Agriculture. x+252 pp., 5x7 inches. D. Appleton and Co., New York. 1915. $1.50 net.

The book is intentionally economic rather than geographic. The author says that he has prepared the book for the benefit of persons contemplating settlement in the arid sections of the country. He discusses some of the geographic aspects of irrigation, including climate, ground water, streams, etc. One chapter is historical; others treat of legislation, investments, operation of irrigation enterprises, and the future of irrigation in the United States. In his concluding chapter he says: "Past experience and the present situation seems to indicate that irrigated lands cannot be expected to repay directly the cost of irrigation works, with interest, as is ordinarily expected of investments generally; . . . if loss to original investors is overlooked, irrigation has been a decided success."